common. Acetylene burnt with an equal volume of oxygen gives a temperature which is 1000° C. higher than the oxy-hydrogen flame. For successful welding minute attention to the details of construction of the blowpipes is necessary, and the author describes the forms of blowpipes used and the generators for producing acetylene economically.

The enormous extent to which this form of welding is employed in the arts may be gathered from the descriptions of iron and mild steel welds that can be done *in situ* on large pieces of structures and machinery. From repairing a large rudder of a steamer to the delicate junction of rose-petals in ornamental wrought iron work, the usefulness of the oxy-acetylene blowpipe extends, but perhaps the most important application of the blowpipe is in the cutting of metals and removing rivets. The weakest part of the work is in the translation, which in places leaves much to be desired.

Ambidexterity and Mental Culture. By Dr. H. Macnaughton-Jones. Pp. 102. (London: William Heinemann, 1914.) Price 2s. 6d. net.

THE author's object in this little volume has been to state briefly the conclusions that may be drawn from the authoritative opinions of physiologists, psychologists, and teachers in different parts of the world as to the advantages of ambidexterity and the desirability of teaching it. Recent experience is drawn upon, and accounts of "Eurythmics" and the Montessori system are included.

LETTERS TO THE EDITOR.

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of NATURE. No notice is taken of anonymous communications.]

Cellular Structure of Emulsions.

WHILE preparing emulsions of radio-active minerals in alcohol for a ray examination, my assistant, Mr. E. K. Denton, directed my attention to the mottled appearance of the surface of the emulsion. Closer examination with a lens or low-power microscope shows that the surface is divided into numerous polygonal cells. At the centre of each cell the liquid is flowing vertically upwards, on the surface horizontally outwards, then downwards at the edges of the cell and horizontally inwards along the bottom; such a circulation, in fact, as would be produced by a vertical doublet at the centre of the cell. The hydrodynamical action of these doublets is no doubt responsible for the cellular structure, and the flow is maintained by the evaporation of the alcohol at these centres.

The effect may be obtained with an emulsion of an insoluble powder in any volatile liquid. I have found it, e.g. with carborundum, graphite, and lycopodium in ether, alcohol, or molten paraffin. (Certain powders, such as rouge, fail to show it.) The accompanying photograph (graphite in methylated spirits) shows the general appearance of the surface, but does not give an adequate idea of the sharply rectilinear character of the boundaries of the cells.

It seems possible that this effect is related to the

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formation of flocculi in the solar photosphere, and even to terrestrial cloud formations of flocculent type. I have not been able to find previous reference to it,

and should be obliged to any of your readers who can supply me with such or otherwise comment upon it
KERR GRANT.

The University of Adelaide, March 1.

A Simple Method of Aerating Marine and other Aquaria.

THE following method is adapted for aerating aquaria, especially those which contain microscopic organisms, such as Amœba, Vorticella, Hydra, Desmids, Diatoms, and delicate Algæ. Further, the method is admirably suited for marine aquaria, and when once set up the sea water does not require to be renewed but only maintained at its original level in the aquarium by the addition of distilled water.

The apparatus required is readily obtained and fitted up; and as the cost is only a few shillings, it should appeal to all teachers of nature-study. Apart from the fascination of having several fresh-water and marine aquaria maintained in perfect condition, there is the educational value to be considered.

All that is required is a water pump, a Woulff's bottle, some glass tubing, a short length of rubber tubing, and one or two screw clips.

The apparatus is fitted up as shown in the accompanying sketch.

The pump is connected with the water supply tap, and when the water is turned on it passes through the pump, dragging air with it into the Woulff's bottle; here the air and water separate, and since the water outflow is checked, the air fills the upper part of the bottle, and becomes compressed. The air being under pressure may either blow the water out of the bottle or bubble through the aquaria; the latter being the path of least resistance, produces the desired result, namely, complete aeration of the aquaria.

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